



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,644	05/03/2001	Harold R. Kaufman	353-07	7230

7590 10/16/2003

Dean P. Edmundson  
P. O. Box 179  
Burton, TX 77835

EXAMINER
----------

HARPER, HOLLY R

ART UNIT	PAPER NUMBER
----------	--------------

2879

DATE MAILED: 10/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/848,644	KAUFMAN ET AL.	
	Examiner	Art Unit	
	Holly R. Harper	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 4,5 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other:  |

## **DETAILED ACTION**

### ***Response to Amendment***

The Amendment, filed on 8/28/2003, has been entered and acknowledged by the Examiner.

Claims 4, 5, and 9 have been canceled.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regards to claims 1 and 6, the phrase “contoured so as to increase the area of said surface by approximately one-half” is considered indefinite. It is unclear how the increase in area can be measured because there is no previous amount or measurement with which to compare.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3 and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Kaufman (USPN 5,763,989).

In regard to claims 1 and 6, the Kaufman reference discloses an ion source with a discharge region (Column 13, Lines 38-39) containing an anode at one end (Column 13, Line 40) and an electron-emitting cathode near the other end (Column 13, Line 43). The anode is contoured (Figure 11 and 12) and increases the area of the surface. A magnetic field is in the discharge region between the anode and cathode (Column 1, Lines 45-46). Ionizable gas enters the anode through a flow-passage (Column 5, Lines 49-50 and Figure 11, element 46). Electrons flow from cathode to anode and the ions that do not recombine with electrons on surfaces of the anode and the magnetic poles and are accelerated outward by the electric field to form an energetic ion beam (Column 7, Lines 45-55).

In regard to claims 2 and 7, the Kaufman reference discloses an ion source with a discharge region (Column 13, Lines 38-39) containing an anode at one end (Figure 11, Element 96) and an electron-emitting cathode near the other end (Figure 11, Element 42). A magnetic field is in the discharge region between the anode and cathode (Column 1, Lines 45-46). Ionizable gas enters the anode through a flow-passage (Column 5, Lines 49-50 and Figure 11, Element 46). There are one or more apertures in the discharge region (Figure 11). Electrons flow from cathode to anode and the ions that do not recombine with electrons on surfaces of the anode and the magnetic poles and are accelerated outward by the electric field to form an energetic ion beam (Column 7, Lines 45-55). The anode is contoured so that one-third or more of the surface cannot be reached by straight lines originating from a given point exterior of the

ion source (Figure 11 and 12). Contour is the shape or outline. Therefore, there is at least one-third of the electron-collecting surface which cannot be reached from straight lines outside the ion source.

In regard to claims 3 and 8, the Kaufman reference discloses an ion source with a discharge region (Column 13, Lines 38-39) containing an anode at one end (Column 13, Line 40) and an electron-emitting cathode near the other end (Column 13, Line 43). There are one or more apertures in the discharge region (Figure 11). Ionizable gas enters the anode through a flow-passage (Column 5, Lines 49-50 and Figure 11, element 46). Electrons flow from cathode to anode and the ions that do not recombine with electrons on surfaces of the anode and the magnetic poles and are accelerated outward by the electric field to form an energetic ion beam (Column 7, Lines 45-55). The anode is contoured so that one-third or more of the surface cannot be reached by straight lines originating from a given point exterior of the ion source (Figure 11 and 12). Contour is the shape or outline. Therefore, there is at least one-third of the electron-collecting surface which cannot be reached from straight lines outside the ion source.

### ***Response to Arguments***

5. Applicant's arguments filed 8/28/2003 have been fully considered but they are not persuasive.

Regarding applicants claim that the 112-2<sup>nd</sup> paragraph rejection has been overcome, the examiner respectfully disagrees. The specification and the drawings do help to explain what is meant by "contoured so as to increase the area of said surface by approximately one-half" but the claims are still indefinite. The claims do not provide any positive structural limitations. The

word contoured is defined as meaning an outline. Therefore any shape is contoured and because there is nothing specific to compare an increase in the area of the surface to, it is believed that the rejection by Kaufman is relevant.

As new rejections have been made, this action is made non-final.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Maishev et al. (USPN 6,214,183 B3) discloses a contoured electron-collecting surface wherein 1/3 or more of the area cannot be reached by straight lines originating outside the ion source.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Harper whose telephone number is (703) 305-7908. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Holly Harper   
Patent Examiner

Joseph Williams  
Patent Examiner